

WELL CONSTRUCTION SPECIFICATIONS & METHODS FOR “SPECIAL AREA OF WELL COMPENSATION ELIGIBILITY”

Within the area designated by the Department on Natural Resources (DNR) – in and surrounding the rural community of Wayside (Town of Morrison) Brown County – wells installed with the use of Well Compensation Program funding shall be constructed to more stringent specifications. These wells shall be constructed and cement-grouted according to the following specifications:

1. The well shall be cased and cement-grouted to a minimum depth of **250 feet**.
2. For 6-inch diameter wells, the upper-enlarged drillhole (UED) shall have a minimum diameter of 8 ³/₄ inches rather than the minimum 8-inch diameter. For larger diameter wells, the UED shall be at least 2 inches larger in diameter than the nominal diameter of the permanent well casing pipe.
3. The UED shall be constructed using rotary mud-circulation methods or cable-tool methods. Rotary-air methods may **not** be used for this purpose. The size of the mud pit shall have a volume large enough to provide for efficient removal of drill cuttings. Further, a centrifuge sand separator shall be installed with the mud circulation system to help remove sand-sized drill cuttings.
4. Water used to mix the drilling mud slurry shall have a pH between 7 and 8.5. If the pH is below 7, it shall be slowly treated with soda ash to achieve a pH within this range.
5. The cement grout shall be ordered from a commercial concrete company, shall be ordered free of aggregate, and shall have a slurry density of at least 15.2 lbs./ gallon, but preferably should have a density of 15.6 lbs./gal. The grout density shall be measured with a mud balance at the well site.
6. The grout shall be adequately screened to remove any unexpected aggregate before it enters the grout pump hopper.
7. The cement grout shall be pumped into the annular space using either the “**Bradenhead**” or the “**Grout Shoe**” method and the grouting operation shall be done in a manner according to the requirements of s. NR 812.20.
8. At completion of the grouting procedure, the grout shall flow out the top of the annular space with the same density as the grout being pumped from the hopper and shall have a density of at least 15.2 lbs./gal. The grout density shall be measured with a mud balance.
9. The cement grout shall be allowed to set for at least 24 hours before the construction of the lower bedrock drillhole is commenced.